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**REMARKS**

**Pending Claims**

Claim 40 has been amended to correct a typographical error. In addition, new claims 53-55 have been added. Claim 53 recites a specific embodiment of the method of the present invention in which the pigment having attached a first chemical group is prepared by a method consisting of reacting at least one diazonium salt having the first chemical group with at least one type of pigment to form said pigment having attached a first chemical group. Claims 54 and 55 recite a specific embodiment of the modified pigment and ink composition of the present invention respectively. In particular, claim 54 recites that the modified pigment consists of a pigment and at least one attached organic group, and claim 55 recites an ink composition comprising this modified pigment. Support for these new claims can be found, for example, on page 6, lines 21-31 as well as in the Examples of the present application. No new matter has been added. Thus, claims 21-25, 34, 35, and 40-55 are pending.

**Rejections of Claims Under 35 U.S.C. § 102**

Claims 21-22, 24, 34-35, 40-45, and 48-52 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Moffatt et al. '257 (U.S. Patent No. 6,323,257).

In paragraph 5, the Office Action repeats the rejection found in paragraph 8 of the Final Office Action mailed May 15, 2008 and adds that it is not seen that the previous amendment of "at least one nucleophile of at least one nucleophilic polymer" overcomes the above rejection. In particular, the Office Action states that, while it is noted that Applicants believe that the pigment of Moffatt et al. '257 is not that of the present claims, there is no probative evidence that the modified pigment of the reference is not within the scope of the present claim language, particularly where the above cited compounds are used which are expected to give the presently claimed pigment. The Office Action specifically states that the teaching that the

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attached reactive groups allow the polymerization to occur in water does not show that nucleophilic groups of the polymers that result from the polymerization do not react with the electrophilic group of the reactive group or vice versa. Furthermore, the Office Action states the portion of Moffatt et al. '257 relied on by the Applicants in the previous response is not seen as teaching away from the radical polymerization being one in which nucleophiles of the monomers react with electrophiles of the reactive groups on the pigment, with the remaining unsaturated group reacting via the free radical mechanism disclosed, and this, further, does not exclude such nucleophiles on the polymers disclosed by Moffatt et al. from subsequently reacting after the polymerization. The Office Action concludes that it is not seen that the products of Moffatt et al. do not fall within the scope of the present claims, and the same argument is applied for the present method claims. The Office Action adds that the argument that the nucleophilic reaction is not disclosed does not show that it is not inherent and that if this reaction occurs in the present application, it is also expected to necessarily occur in the reaction system of Moffatt et al. '257. Finally, the Office Action also states that the Examiner does not agree that the portion of Moffatt et al. '257 relied on by the Applicants necessarily means that the reaction of the monomer with reactive groups of pigment is a free radical reaction, only that the polymerization is a free radical reaction, and, it is unclear how or that the reaction with the compound shown in Moffatt et al. '257 in which X is SO<sub>2</sub> would give a free radical reaction with the monomers of Moffatt et al. '257. The Office Action concludes that reaction with nucleophiles of the monomers of Moffatt et al. '257 appears much more likely, particularly considering the monomers having nucleophile groups of Moffatt et al. '257.

Applicants continue to respectfully disagree with this rejection. In reviewing each of the comments provided in the Final Office Action, particularly those in response to Applicants' previous arguments, it appears the rejection can be summarized that, while Moffatt et al. '257 does not specifically disclose the nucleophilic/electrophilic reaction product recited in the present claims, this is inherent to the products of this reference and would necessarily occur since it occurs in the present application and the same groups are present. In the Examiner's opinion, either a) the nucleophilic groups of the polymers that result from the polymerization

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react with the electrophilic groups of the reactive groups, or b) the nucleophiles of the monomers react with the electrophiles of the reactive groups on the pigment and the resulting unsaturated group reacts via free radical polymerization. In either case, the resulting reaction product would be the same as that of the present invention.

However, Applicants do not agree that the reaction described by the Examiner is a necessary and inevitable outcome of Moffatt et al. '257. In fact, this goes against the very teaching of the reference. For example, Moffatt et al. '257 specifically states that, for "[p]olymer [a]ttachment", use of the pigments "which already have the reactive groups covalently attached ... allows for polymerization in water" and that "[s]uitable polymerization processes", which include "solution, emulsion, or suspension methods" in which "radical chain polymerization occurs at the reactive group on the MMC surface to form a variety of polyacrylates, polymethacrylates, and other homo- or co-polymers" (emphasis added, see column 6, lines 6-18). Thus, "the polymers are covalently attached to the MMC" (see column 6, lines 18-19).

Clearly, therefore, Moffatt et al. discloses attachment of polymer specifically by polymerization at the reactive group. There is no disclosure, teaching, or suggestion that either a) the polymerization forms polymer that then reacts with the reactive group or that b) the monomers react with the reactive group and polymerization occurs from there. Neither of these would a polymerization at the reactive group.

As further support, Moffatt et al. lists a large number of "[s]uitable monomers which can be used in the polymerization process" and these include, for example, "esters of 50 carbons or less of acrylic and methacrylic acids" as well as a variety of others (see column 6, lines 27-34). Also, Moffatt et al. '257 provides a long list of specific monomers spanning columns 6-16 and states that "[o]ne or more of the following monomers may be added in any combination and in any ratio" (see column 6, lines 46-47). Many of these do not even have nucleophilic groups. Thus, Moffatt et al. '257 teaches that monomers without nucleophilic groups are effective for attaching polymers without nucleophilic groups, and these clearly cannot be attached by any nucleophilic/electrophilic reaction. The Examiner has not provided

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any evidence or reasoning for why monomers, or the resulting polymers, with groups that may be considered nucleophilic would be expected to attach to the pigments of Moffatt et al. '257 differently than those that do not have groups which can be considered nucleophilic. Rather, since Moffatt et al. '257 groups those with and without nucleophiles together as "[s]uitable monomers", one of ordinary skill in the art would expect and recognize that these would form attached polymer in the same way.

The Office Action also states that it is unclear how the reaction with compounds of column 4, lines 52-63 of Moffatt et al. '257 (which relate to those recited in present claims 21 and 34) would give a free radical reaction with the monomers of Moffatt et al. '257, and, as a result, concludes that reaction with the nucleophiles of the monomers is more likely. Applicants respectfully disagree. As is known in the art, groups such as those identified in the Office Action undergo an elimination reaction to form a vinyl sulfone group, which is also shown in Moffatt et al. '257 (see column 5, lines 15-20). Formation of this vinyl group would lead to polymer formation by free radical polymerization. Nucleophilic groups would be expected to assist in the formation of this vinyl sulfone. Thus, contrary to what is stated in the Office Action, based on the teaching of Moffatt et al. '257, monomers, either with or without a nucleophilic group, would be expected to polymerize with the intermediate vinyl sulfone group resulting from the compound shown in column 4, lines 52-63 of the reference (i.e., "radical chain polymerization occurs at the reactive group on the MMC surface"), thereby forming the attached polymer.

Thus, the attachment of polymer via a nucleophilic/electrophilic reaction cannot be viewed as a necessary and inevitable outcome of the disclosure of Moffatt et al. '257, and, as a result, is not inherent to the products or methods disclosed therein. The fact that a certain result or characteristic may result or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. Rather, to establish inherency, the extrinsic evidence must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill (see MPEP 2112).

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Since no nucleophilic/electrophilic reaction product is disclosed, taught, or suggested by Moffatt et al. '257, and since such a reaction product is not necessarily present in this reference, Applicants therefore believe that the present claims are not anticipated by Moffatt et al. '257.

Even if, when choosing a monomer having a nucleophilic group from the list of monomers described in Moffatt et al. '257, a nucleophilic/electrophilic reaction product is formed, which Applicants do not agree with, the resulting reaction product would be very different from that of the present invention. In particular, assuming, as suggested in the Office Action, that the nucleophile of the monomer reacted with the reactive group on the pigment and that the resulting attached unsaturated group reacted via free radical polymerization, the resulting modified pigment would therefore be the reaction product of an attached polymerizable group and a growing polymer chain. By comparison, the modified pigment recited in the present claims is the reaction product of an attached reactive group and a preformed nucleophilic polymer. As is well understood in the art, growing a polymer from a surface results in very different products than attaching a preformed polymer to a surface, in terms of both the type of polymer attached (such as molecular weight and molecular weight distribution) as well as in the distribution of the attached polymer across the surface (due to, for example, the size and chemical differences in what is being attached). Thus, if monomer reacted with the reactive group, the resulting reaction product is very different from the reaction product recited in the present claims.

In addition, assuming, as is suggested in the Office Action, the nucleophilic groups of the polymers resulting from the polymerization described in Moffatt et al. '257 reacted with the electrophilic groups of the reactive groups, this would only occur if none of the growing polymer reacted with the reactive group. Thus, monomer would have to form polymer in the presence of the reactive group-containing pigment, and then, the resulting polymer would have to react with pigment. However, it would not be reasonably expected by one of ordinary skill in the art, that such a scenario could or would occur, particularly based on the known

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chemistry of the attached group, and there is certainly nothing in Moffatt et al. '257 that would lead one to reasonably expect such an outcome.

Therefore, since no nucleophilic/electrophilic reaction product is disclosed, taught, or suggested by Moffatt et al. '257 or is inherent to the products of this reference, and since the products resulting from such a presumed reaction would not be the same as those of the present invention, Applicants therefore believe that the modified pigment recited in present claim 21 and the ink composition comprising this modified pigment recited in claim 34, as well as the method of making the modified pigment recited in present claim 40, are not anticipated by Moffatt et al. '257. Furthermore, claims 22 and 24, which depend directly from claim 21, claim 35, which depends directly from claim 34, and claims 41-45 and 48-52, which depend directly or indirectly from claim 40, each recite further embodiments of the claimed invention and, for at least the reasons discussed above, are also not anticipated by Moffatt et al. '257.

Applicants therefore believe that claims 21-22, 24, 34-35, 40-45, and 48-52 are not anticipated by Moffatt et al. '257 and respectfully request that the rejection of these claims under 35 U.S.C. § 102(e) be withdrawn.

Finally, regarding new claims 53-55, claim 53 recites a method of making a modified pigment comprising the step of reacting a pigment having attached a first chemical group with a second chemical group to form a pigment having attached a third chemical group, wherein the pigment having attached a first chemical group is prepared by a method consisting of reacting at least one diazonium salt having the first chemical group with at least one type of pigment to form said pigment having attached a first chemical group. Claim 54 recites a modified pigment consisting of a pigment and at least one attached organic group, wherein said organic group comprises: the reaction product of at least one (2-sulfatoethyl)-sulphone group and at least one nucleophile of at least one nucleophilic polymer, and claim 55 recites an ink composition comprising this modified pigment.

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Applicants believe that each of these claims is also not anticipated by Moffatt et al. '257. In particular, claims 54 and 55 recite a modified pigment consisting of only one type of attached group - an organic group which comprises the reaction product of at least one specified reactive group and at least one nucleophilic polymer. By comparison, Moffatt et al. '257 specifically discloses that the modified pigments have two different types of attached groups - a water solubilizing group and a reactive group used to attach a polymeric group (see, for example, Figure 1 and column 2, lines 6-10). This is not the modified pigment recited in claims 54 and 55. Furthermore, claim 53 recites a method in which a pigment having attached a first chemical group is prepared by reacting only one type of diazonium salt with a pigment. By comparison, Moffatt et al. '257 specifically discloses a method to attach two separate types of groups (see, for example, column 4, lines 13-23).

Since Moffatt et al. '257 discloses a different method and different modified pigments than those recited in claims 53-56, Applicants therefore believe these claims are also not anticipated by this reference.

#### **Rejections of Claims under 35 U.S.C. § 103**

##### **Moffatt et al. '257 in view of Moffatt et al. '932**

Claims 21-22, 24-25, 34-35, and 40-52 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Moffatt et al. '257 (U.S. Patent No. 6,323,257) in view of Moffatt et al. '932 (U.S. Patent No. 6,221,932).

In paragraph 7, the Office Action incorporates the discussion from paragraph 5 above with respect to Moffatt et al. '257 and states that the difference between this reference and the present claimed invention is the requirement in the claims of specific type of polymer. However, the Office Action states that Moffatt et al '932, which is drawn to ink composition comprising modified pigment, discloses attaching polymer such as polyethyleneimine to pigment in order to produce an ink with increased smearfastness, enhanced print quality, and improved bleed control, and further discloses the equivalence and interchangeability of

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polyalkylene glycols, as disclosed in Moffatt et al. '257, with polyethyleneimine. The Office Action concludes that, in light of the motivation for using specific type of polymer disclosed by Moffatt et al. '932, it would have been obvious to one having ordinary skill in the art to use such polymer in the pigment of Moffatt et al. '257 in order to produce an ink with increased smearfastness, enhanced print quality, and improved bleed control, thereby arriving at the claimed invention. The Office Action adds that, where the moieties disclosed by Moffatt are those of the instant claims, they are expected to necessarily and inherently produce compounds falling within the scope of the instant claims, there being no probative evidence that the argued reactions do not necessarily occur during the processing and reacting of the reference.

Applicants respectfully disagree. As discussed in more detail above, since no nucleophilic/electrophilic reaction product is disclosed, taught, or suggested by Moffatt et al. '257 or is inherent to the products of this reference, and since the products resulting from such a presumed reaction would not be expected to be the same as those of the present invention, Applicants therefore believe that the modified pigment recited in present claim 21 and the ink composition comprising this modified pigment recited in claim 34, as well as the method of making the modified pigment recited in present claim 40, are patentable over Moffatt et al. '257.

Furthermore, Moffatt et al. '932 cannot overcome the deficiencies of Moffatt et al. '257 since this reference describes a very different product. In particular, as discussed in more detail above, Moffatt et al. '257 clearly teaches a modified pigment which is the reaction product of a polymerization reaction with an attached reactive group (i.e. the reaction of a modified pigment and a monomer or growing polymer). By comparison, Moffatt et al. '932 discloses a modified pigment prepared by reacting a pigment having attached aromatic ester group with polymer such as polyethylene glycol, polyamine, or polyethyleneimine, and that the reaction occurs by nucleophilic substitution. The monomers used in Moffatt et al. '257 are not interchangeable with the polymers used in Moffatt et al. '932 and would be expected to form very different products. In addition, the polymers identified from Moffatt et al. '932 are not the types that would be formed by the radical polymerization taught in Moffatt et al. '257.

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Therefore, since these references describe very different products, one skilled in the art would not combine these references.

Even if these references were combined, the resulting combination would not be the modified pigment recited in present claim 21. In particular, if one combined these references, one might be motivated to use the modified pigment having attached aromatic ester group of Moffatt et al. '932 in the polymerization reaction of Moffatt et al. '257. However, as discussed in more detail above, a reaction product resulting from polymerization would not be the same as the reaction product recited in present claim 21 and 34. Furthermore, this is clearly not the method recited in present claim 40, in which the nucleophile reacts with the electrophile.

Therefore, Applicants believe that claims 21, 34, and 40 are patentable over Moffatt et al. '257 in view of Moffatt et al. '932. Furthermore, claims 22, 24, and 25, which depend directly from claim 21, claim 35, which depends directly from claim 34, and claims 41-52, which depend directly or indirectly from claim 40, each recite further embodiments of the claimed invention and, for at least the reasons discussed above, are also patentable over this combination of references.

Applicants therefore believe that claims 21-22, 24-25, 34-35, and 40-52 are patentable over Moffatt et al. '257 in view of Moffatt et al. '932 and respectfully request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn.

Finally, regarding new claims 53-55, claim 53 recites a method of making a modified pigment comprising the step of reacting a pigment having attached a first chemical group with a second chemical group to form a pigment having attached a third chemical group, wherein the pigment having attached a first chemical group is prepared by a method consisting of reacting at least one diazonium salt having the first chemical group with at least one type of pigment to form said pigment having attached a first chemical group. Claim 54 recites a modified pigment consisting of a pigment and at least one attached organic group, wherein said organic group comprises: the reaction product of at least one (2-sulfatoethyl)-sulphone group

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and at least one nucleophile of at least one nucleophilic polymer, and claim 55 recites an ink composition comprising this modified pigment.

Applicants believe that each of these claims is also patentable over Moffatt et al. '257 in view of Moffatt et al. '932. As discussed in more detail above, claims 54 and 55 recite a modified pigment consisting of only one type of attached group, and claim 53 recites a method in which a pigment having attached a first chemical group is prepared by reacting only one type of diazonium salt with a pigment. These are not the modified pigment or method disclosed by Moffatt et al. '257. Furthermore, as discussed above, Moffatt et al. '932 cannot overcome the deficiencies of Moffatt et al. '257 since these references describe very different products and one skilled in the art would not combine these references. In addition, even if these references were combined, the resulting combination would not be the modified pigment or method recited in present claims 53-55 since, if one combined these references, one might be motivated to use the modified pigment having attached aromatic ester group of Moffatt et al. '932 in the polymerization reaction of Moffatt et al. '257. However, as discussed in more detail above, a reaction product resulting from polymerization would not be the same as the reaction product recited in present claim 54 and 55. Furthermore, this is clearly not the method recited in present claim 53, in which the nucleophile reacts with the electrophile.

Therefore, Applicants believe that claims 53-55 are also patentable over Moffatt et al. '257 in view of Moffatt et al. '932.

Moffatt et al. '257 in view of Fuchs et al.

Claims 21-24, 34-35, 40-46, and 48-52 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Moffatt et al. '257 (U.S. Patent No. 6,323,257) in view of Fuchs et al. (U.S. Patent No. 3,900,510).

In paragraph 8, the Office Action repeats the rejection found in paragraph 11 of the Final Office Action mailed May 15, 2008 and adds the comments provided in paragraph 5 above regarding Moffatt et al. '257. The Office Action also identifies the difference between this reference and the present claimed invention as the requirement in the claims that the first

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chemical group is attached to the pigment using diazonium salt of a specific type of (2-sulfatoethyl)sulphone group. However, the Final Office Action also states that, while Moffatt et al. '257 does not teach the use of the instantly claimed sulfatoethylsulphone group to attach to the pigment, this reference does disclose using diazonium moieties to do so to attach the first chemical group to the pigment. In addition, the Office Action states that Fuchs et al. shows that reacting alkaline agent and the sulfuric acid ester or aminobenzylsulfone ethylenesulfonate will give the vinyl aminobenzylsulfone. The Office Action therefore concludes that it would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use diazonium salt to attach the first chemical group to the pigment of Moffatt et al. '257 using the compound of present claims 5-7 and 23 and to treat this compound with the alkaline compound to arrive at the compound of Moffatt et al. '257, thereby arriving at the claimed invention. The Office Action adds that, where the moieties disclosed by Moffatt et al. '257 are those of the instant claims, they are expected to necessarily and inherently produce compounds falling within the scope of the instant claims, there being no probative evidence that the argued reactions do not necessarily occur during the processing and reacting of the reference. The Office Action also adds that the complexity and presence of side reactions in such complex mixtures is taught in basic undergraduate organic chemistry and is certainly expected by the ordinary skilled artisan.

Finally, regarding Applicants' previous arguments, the Office Action states that these have been fully considered by are not persuasive for the reasons stated above, stating that there is no showing of unexpected results commensurate in scope with the cited prior art and the instant claims.

Applicants respectfully disagree. As discussed in more detail above, since no nucleophilic/electrophilic reaction product is disclosed, taught, or suggested by Moffatt et al. '257 or is inherent to the products of this reference, and since the products resulting from such a presumed reaction would not be the same as those of the present invention, Applicants therefore believe that the modified pigment recited in present claim 21 and the ink composition comprising this modified pigment recited in claim 34, as well as the method of making the

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modified pigment recited in present claim 40, are patentable over Moffatt et al. '257.

Furthermore, Fuchs et al. cannot cure the deficiencies of the method of Moffatt et al. '257 since this is not related art. Fuchs et al. describes a method of preparing the sulfuric acid ester of 1-aminobenzene-4-( $\beta$ -hydroxyethyl-sulfone)-2-sulfonic acid and the 4-vinylsulfone compound thereof and also states that these compounds may be used as a coupling component in the preparation of dyestuffs (see column 3, lines 14-26 and Example 6). However, there is no teaching or suggestion that either of these compounds can or should be used as an attached group on a pigment. Only the reaction to form dyestuffs is shown. Therefore Applicants believe that one having ordinary skill in the art would not be motivated to combine the teachings of Fuchs et al. with the method of Moffatt et al. '257 since this is unrelated art.

Even if these references were combined, the resulting combination would not be the modified pigment or method recited in the present claims. In particular, there is no disclosure, teaching, or suggestion in Fuchs et al. of a reaction of the specified compounds with a second group, particularly a nucleophilic or electrophilic group. Thus, if one having ordinary skill in the art were to combine these references, one might be motivated to use the teaching of Fuchs et al. to form the 4-vinylsulfone compound (or, alternatively, as support for the formation of this compound) for use in the polymerization method of Moffatt et al. '257. Clearly, this is not the modified pigment or method of the present invention.

Therefore, Applicants believe that claims 21, 34, and 40 are patentable over Moffatt et al. '257 in view of Fuchs et al. Furthermore, claims 22-24, which depend directly from claim 21, claim 35, which depends directly from claim 34, and claims 41-46 and 48-52, which depend directly or indirectly from claim 40, each recite further embodiments of the claimed invention and, for at least the reasons discussed above, are also patentable over this combination of references.

Applicants therefore believe that claims 21-24, 34-35, 40-46, and 48-52 are patentable over Moffatt et al. '257 in view of Fuchs et al. and respectfully request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn.

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Finally, regarding new claims 53-55, claim 53 recites a method of making a modified pigment comprising the step of reacting a pigment having attached a first chemical group with a second chemical group to form a pigment having attached a third chemical group, wherein the pigment having attached a first chemical group is prepared by a method consisting of reacting at least one diazonium salt having the first chemical group with at least one type of pigment to form said pigment having attached a first chemical group. Claim 54 recites a modified pigment consisting of a pigment and at least one attached organic group, wherein said organic group comprises: the reaction product of at least one (2-sulfatoethyl)-sulphone group and at least one nucleophile of at least one nucleophilic polymer, and claim 55 recites an ink composition comprising this modified pigment.

Applicants believe that each of these claims is also patentable over Moffatt et al. '257 in view of Fuchs et al. As discussed in more detail above, claims 54 and 55 recite a modified pigment consisting of only one type of attached group, and claim 53 recites a method in which a pigment having attached a first chemical group is prepared by reacting only one type of diazonium salt with a pigment. These are not the modified pigment or method disclosed by Moffatt et al. '257. Furthermore, as discussed above, Fuchs et al. cannot overcome the deficiencies of Moffatt et al. '257 since these references describe very different products and one skilled in the art would not combine these references. In addition, even if these references were combined, the resulting combination would not be the modified pigment or method recited in present claims 53-55 since, if one combined these references, one might be motivated to use the teaching of Fuchs et al. to form the 4-vinylsulfone compound (or, alternatively, as support for the formation of this compound) for use in the polymerization method of Moffatt et al. '257. However, clearly this is not the modified pigment or method of the present invention.

Therefore, Applicants believe that claims 53-55 are also patentable over Moffatt et al. '257 in view of Fuchs et al.

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Moffatt et al. '257 in view of Moffatt et al. '932 and further in view of WO 99/31157

Claims 25 and 46-47 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Moffatt et al. '257 (U.S. Patent No. 6,323,257) in view of Moffatt et al. '932 (U.S. Patent No. 6,221,932), as applied to the claims in paragraph 7 above, and further in view of WO 99/31175.

In paragraph 9, the Office Action states that the difference between Moffatt et al. '257 and the present claimed invention is the requirement in the claims of specific type of polymer. However, the Office Action also states that Moffatt et al. '932, which is drawn to ink composition comprising modified pigment, discloses attaching a polymer such as polyethyleneimine to pigment in order to produce an ink with increased smearfastness, enhanced print quality, and improved bleed control, and further discloses the equivalence and interchangeability of polyalkylene glycols, as disclosed in Moffatt et al. '257, with polyethyleneimine. The Office Action concludes that, in light of the motivation for using specific type of polymer disclosed by Moffatt et al. '932, it would have been obvious to one having ordinary skill in the art to use such polymer in the pigment of Moffatt et al. '257 in order to produce an ink with increased smearfastness, enhanced print quality, and improved bleed control, and thereby arrive at the claimed invention. The Office Action adds that, where the moieties disclosed by Moffatt et al. '257 are those of the instant claims, they are expected to necessarily and inherently produce compounds falling within the scope of the instant claims, there being no probative evidence that the argued reactions do not necessarily occur during the processing and reacting of the reference. The Office Action also adds that the complexity and presence of side reactions in such complex mixtures is taught in basic undergraduate organic chemistry and is certainly expected by the ordinary skilled artisan.

Finally, regarding Applicants' previous arguments, the Office Action states that these have been fully considered by are not persuasive for the reasons stated above, stating that there is no showing of unexpected results commensurate in scope with the cited prior art and the instant claims.

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Applicants respectfully disagree. As an initial matter, Applicants note that, while the Office Action in paragraph 9, states that claims 25 and 46-47 have been rejected over Moffatt et al. '257 in view of Moffatt et al. '932, as applied in paragraph 7 above, and further in view of WO 99/31175, no specific rejections regarding WO 99/31175 have been provided. Clarification regarding this rejection is requested.

Claim 25 depends directly from claim 21, and claims 46-47 depend indirectly from claim 40. Applicants believe that claims 21 and 40 are patentable over Moffatt et al. '257 in view of Moffatt et al. '932 for the reasons discussed in more detail above. Therefore, claims 25 and 46-47, which recite further embodiments of the claimed invention are also patentable over this combination of references for at least the reasons discussed above.

While no specific rejection regarding WO 99/31157 is provided, Applicants believe that this reference cannot cure the deficiencies of Moffatt et al. '257 in view of Moffatt et al. '932.

WO 99/31157 describes a very different method of preparing a modified pigment. In particular, in the embodiments of WO 99/31175 involving a reaction of an attached group, this reference teaches a) a method involving the esterification reaction of modified pigments comprising an aromatic acid group, and b) a method involving the exchange of a counter-ionizable group having at least one organic group, monomeric group, or polymeric group. These are not a polymerization method, and, as a result, would not be combined with the teaching of the method of Moffatt et al. '257.

Even if these references were combined, the resulting combination would not be the modified pigment or method of the present invention. In particular, if one combined these references, one might be motivated to use the modified pigments described in either WO 99/31175 or Moffatt et al. '932 in the polymerization reaction of Moffatt et al. '257. However, clearly this is not the modified pigment of present claim 21 or the method of present claim 40.

Applicants therefore believe that claims 25 and 46-47 are patentable over Moffatt et al. '257 in view of Moffatt et al. '932 and further in view of WO 99/31157 and respectfully request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn.

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Finally, regarding new claims 53-55, claim 53 recites a method of making a modified pigment comprising the step of reacting a pigment having attached a first chemical group with a second chemical group to form a pigment having attached a third chemical group, wherein the pigment having attached a first chemical group is prepared by a method consisting of reacting at least one diazonium salt having the first chemical group with at least one type of pigment to form said pigment having attached a first chemical group. Claim 54 recites a modified pigment consisting of a pigment and at least one attached organic group, wherein said organic group comprises: the reaction product of at least one (2-sulfatoethyl)-sulphone group and at least one nucleophile of at least one nucleophilic polymer, and claim 55 recites an ink composition comprising this modified pigment.

Applicants believe that each of these claims is also patentable over Moffatt et al. '257 in view of Moffatt et al. '932 and further in view of WO 99/31157. As discussed in more detail above, claims 54 and 55 recite a modified pigment consisting of only one type of attached group, and claim 53 recites a method in which a pigment having attached a first chemical group is prepared by reacting only one type of diazonium salt with a pigment. These are not the modified pigment or method disclosed by Moffatt et al. '257 in view of Moffatt et al. '932. Furthermore, as discussed above, WO 99/31157 cannot overcome the deficiencies of Moffatt et al. '257 in view of Moffatt et al. '932 since these references describe very different products and one skilled in the art would not combine these references. In addition, even if these references were combined, the resulting combination would not be the modified pigment or method recited in present claims 53-55 since, if one combined these references, one might be motivated to use the modified pigments described in either WO 99/31175 or Moffatt et al. '932 in the polymerization reaction of Moffatt et al. '257. However, clearly this is not the modified pigment or method of the present invention.

Therefore, Applicants believe that claims 53-55 are also patentable over Moffatt et al. '257 in view of Moffatt et al. '932 and further in view of WO 99/31157.

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**Conclusion**

In view of the foregoing remarks, Applicants believe that this application is in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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